

- 46 -

WHAT IS CLAIMED IS:

5 1. An intelligent network for use with an ATM network to set up an ATM switched virtual circuit to provide VToA services, the intelligent network comprising:

10 a multi-service control point operable to receive an input extracted from an input ATM setup message that includes a called party phone number value and a VToA designator, and generate an output in response for use in generating an output ATM setup message;

15 an ATM signaling intercept processor operable to intercept the input ATM setup message from an ingress ATM edge switch of the ATM network, extract the input from the input ATM setup message, communicate the input to the multi-service control point, receive the output generated by the multi-service control point, generate the output ATM setup message using the output, and communicate the output ATM setup message to the ingress ATM edge switch of the ATM network; and

20 a service administration operable to provision the multi-service control point and the ATM signaling intercept processor.

25 2. The intelligent network of Claim 1, wherein the input includes a calling party phone number value.

3. The intelligent network of Claim 2, wherein the input includes an ATM address of the calling party CPE.

- 47 -

5 4. The intelligent network of Claim 3, wherein the  
called party phone number value is stored in a called  
party subaddress parameter of the input ATM setup  
message, the VToA designator is stored in a called party  
number parameter of the input ATM setup message, the  
calling party phone number value is stored in a calling  
party subaddress parameter of the input ATM setup  
message, and the ATM address of the calling party CPE is  
10 stored in a calling party number parameter of the input  
ATM setup message.

15 5. The intelligent network of Claim 1, wherein the  
called party phone number value is stored in the called  
party subaddress parameter of the input ATM setup  
message, the VToA designator is stored in the called  
party number parameter of the input ATM setup message.

20 6. The intelligent network of Claim 1, wherein the  
output includes an ATM address of the called party.

25 7. The intelligent network of Claim 6, wherein the  
called party phone number value is stored in the called  
party subaddress parameter of the output ATM setup  
message, the ATM address of the called party is stored in  
the called party number parameter of the output ATM setup  
message, the calling party phone number value is stored  
in the calling party subaddress parameter of the output  
ATM setup message, and the ATM address of the calling  
party CPE is stored in the calling party number parameter  
30 of the output ATM setup message.

8. The intelligent network of Claim 1, wherein the multi-service control point determines if the input ATM setup message requests an SVC for VToA by analyzing the VToA designator portion of the input.

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9. The intelligent network of Claim 1, wherein the multi-service control point further includes:

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a database that correlates the called party phone number value with an ATM address of the called party CPE, and wherein the multi-service control point includes the ATM address of the called party CPE in the output.

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10. The intelligent network of Claim 1, wherein the multi-service control point further includes:

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a database that correlates the called party phone number value with a forwarded called party phone number value when the called party phone number value has been forwarded, correlates the forwarded party phone number value with an ATM address of the forwarded party CPE, and wherein the multi-service control point includes the forwarded party phone number value and the ATM address of the forwarded party CPE in the output.

- 49 -

11. The intelligent network of Claim 1, wherein the multi-service control point further includes:

5 a database that correlates the called party phone number value with a translated called party phone number value when the called party phone number should be translated, correlates the translated party phone number value with an ATM address of the translated party CPE, and wherein the multi-service control point includes the translated party phone number value and the ATM address  
10 of the translated party CPE in the output.

12. The intelligent network of Claim 1, wherein the multi-service control point is operable to receive an input extracted from an input ATM connect message and to generate an output in response for use in generating an output ATM connect message, and wherein the ATM signaling intercept processor operable to intercept the input ATM connect message from an ingress ATM edge switch of the ATM network, to extract the input from the input ATM  
15 connect message, to communicate the input to the multi-service control point, to receive the output generated by the multi-service control point, to generate the output ATM connect message using the output, and communicate the output ATM signaling message to the ingress ATM edge  
20 switch of the ATM network.  
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- 50 -

5 13. The intelligent network of Claim 1, wherein the  
multi-service control point is operable to receive an  
input extracted from an input ATM release message and to  
generate an output in response for use in generating an  
output ATM release message, and wherein the ATM signaling  
intercept processor operable to intercept the input ATM  
release message from an ingress ATM edge switch of the  
ATM network, to extract the input from the input ATM  
release message, to communicate the input to the multi-  
10 service control point, to receive the output generated by  
the multi-service control point, to generate the output  
ATM release message using the output, and communicate the  
output ATM signaling message to the ingress ATM edge  
switch of the ATM network.

15 14. The intelligent network of Claim 1, wherein the  
multi-service control point includes various applications  
operable to provide VToA services through analyzing the  
input to generate the output.

20 15. The intelligent network of Claim 1, wherein the  
ATM signaling intercept processor includes a call model  
operable to model multiple switched virtual circuits,  
including the ATM switched virtual circuit, for providing  
25 VToA using the ATM network.

30 16. The intelligent network of Claim 1, wherein the  
ATM edge switch receives the input ATM setup message in a  
predefined format from a customer premises equipment.

17. The intelligent network of Claim 1, wherein the  
ATM edge switch receives the input ATM setup message from  
an enterprise gateway.



22. The intelligent network of Claim 21, wherein the second multi-service control point is the multi-service control point are the same multi-service control point.

23. The intelligent network of Claim 1, wherein the service administration maintains a database of record.

24. The intelligent network of Claim 1, wherein the service administration provides an interface to the multi-service control point and the ATM signal intercept processor.

25. The intelligent network of Claim 1, wherein the ingress ATM switch has a device side portion and a network side portion.

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- 53 -

26. An ATM telecommunications network with an intelligent network for providing VToA services using an ATM switched virtual circuit, the ATM telecommunications network comprising:

5 an ATM network operable to communicate ATM cells and ATM messages;

10 an ingress ATM edge switch in communication with the ATM network and an ingress CPE, the ingress ATM edge switch operable to receive an input ATM setup message from an ingress CPE and to communicate an output ATM setup message to the ATM network;

15 an egress ATM edge switch in communication with the ATM network and an egress CPE, the egress ATM edge switch operable to receive the output ATM setup message from the ATM network and to communicate an ATM setup message to an egress CPE;

an intelligent network that includes:

20 a multi-service control point operable to receive an input extracted from the input ATM setup message that includes a called party phone number value and a VToA designator, and generate an output in response for use in generating the output ATM setup message,

25 an ATM signaling intercept processor operable to intercept the input ATM setup message from the ingress ATM edge switch, extract the input from the input ATM setup message, communicate the input to the multi-service control point, receive the output generated by the multi-service control point, generate the output ATM setup message using the output, and communicate the output ATM setup message to the ingress ATM edge switch of the ATM  
30 network,



- 54 -

a second multi-service control point operable to receive an egress input extracted from the output ATM setup message that includes the called party phone number value, and generate an egress output in response,

5 a second ATM signaling intercept processor operable to intercept the output ATM setup message from the egress ATM edge switch of the ATM network, extract the egress input from the output ATM setup message, communicate the egress input to the second multi-service control point, receive the egress output generated by the multi-service control point, generate an ATM setup message using the output, and communicate the ATM setup message to the egress ATM edge switch of the ATM network,

10 a service administration operable to provision the multi-service control point, the ATM signaling intercept processor, the second multi-service control point and the second ATM signaling intercept processor.

15 27. The ATM telecommunications network of Claim 26, wherein the input includes a calling party phone number value and an ATM address of the calling party CPE, and wherein the called party phone number value is stored in a called party subaddress parameter of the input ATM setup message, the VToA designator is stored in a called party number parameter of the input ATM setup message, 20 the calling party phone number value is stored in a calling party subaddress parameter of the input ATM setup message, and the ATM address of the calling party CPE is stored in a calling party number parameter of the input ATM setup message. 25 30



- 56 -

29. A method for providing VToA using an intelligent network and a switched virtual circuit over an ATM network, the method comprising:

5 intercepting an input ATM setup message from an ingress ATM edge switch of the ATM network;

extracting information from the input ATM setup message;

analyzing the information to determine if the input ATM setup message is a request to set up an SVC for VToA;

10 determining an ATM address of a called party CPE;

generating an output ATM setup message that includes the ATM address of a called party CPE; and

15 communicating the output ATM setup message to the ingress ATM edge switch of the ATM network.

30. The method of Claim 29, wherein analyzing the information to determine if the input ATM setup message is a request to set up an SVC for VToA includes checking for the presence of a VToA designator.

20 31. The method of Claim 29, wherein extracting information from the input ATM setup message includes generating an input from the input ATM setup message that includes a called party phone number value and a VToA designator.

25 32. The method of Claim 31, wherein analyzing the information to determine if the input ATM setup message is a request to set up an SVC for VToA includes analyzing the input to determine if the input includes the VToA designator.

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- 57 -

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33. The method of Claim 32, wherein determining an ATM address of a called party CPE includes correlating the called party phone number value of the input with the ATM address of the called party CPE using a database.

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34. The method of Claim 33, wherein generating an output ATM setup message that includes the ATM address of a called party CPE further includes generating the output ATM setup message that includes the called party phone number value.

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35. The method of Claim 34, wherein intercepting the input ATM setup message from the ingress ATM edge switch of the ATM network, and extracting information from the input ATM setup message are performed using an ATM signaling intercept processor.

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36. The method of Claim 35, wherein analyzing the information to determine if the input ATM setup message is a request to set up an SVC for VToA, and determining the ATM address of the called party CPE are performed using a multi-service control point.

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37. The method of Claim 36, wherein generating an output ATM setup message that includes the ATM address of a called party CPE is performed using the ATM signaling intercept processor.

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38. The method of Claim 37, wherein the input ATM setup message provides the VToA designator stored in the called party address parameter and the called party phone number value stored in the called party subaddress parameter.



- 59 -

41. A method for providing VToA using an intelligent network and a switched virtual circuit over an ATM network, the method comprising:

5 receiving a request at an ingress CPE to make a VToA call that includes a called party phone number value;

generating an input ATM setup message at the CPE that includes the called party phone number and a VToA designator stored in a designated parameter of the input ATM setup message;

10 receiving the input ATM setup message at a device side of an ingress ATM edge switch of the ATM network;

intercepting the input ATM setup message from the device side of the ingress ATM edge switch of the ATM network;

15 extracting information from the input ATM setup message that includes the VToA designator and the called party phone number;

analyzing the information to determine if the VToA designator is present;

20 determining an ATM address of a called party CPE using the called party phone number and a database;

generating an output ATM setup message that includes the ATM address of a called party CPE and the called party phone number;

25 communicating the output ATM setup message to a network side of the ingress ATM edge switch of the ATM network;

receiving the output ATM setup message at a network side of an egress ATM edge switch;

30 intercepting the output ATM setup message from the network side of the egress ATM edge switch of the ATM network;

extracting egress information from the output ATM setup message that includes the ATM address of the called party CPE;

communicating the output ATM setup message to a device side of the egress ATM edge switch; and

communicating the output ATM setup message to the called party CPE.

42. The method of Claim 41, wherein generating an input ATM setup message at the CPE includes storing the VToA designator in the called party address parameter and storing the called party phone number value in the called party subaddress parameter.

43. The method of Claim 42, wherein generating an output ATM setup message includes storing the ATM address of the called party CPE in the called party address parameter and storing the called party phone number value stored in the called party subaddress.

44. The method of Claim 41, further comprising:  
processing the information to provide VToA services after analyzing the information to determine if the VToA designator is present.

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